



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------|------------------|
| 10/685,723 | 10/15/2003 | Donald R. Martin | 201376-9017 | 5385 |
| 1131 7590 07/06/2005 MICHAEL BEST & FRIEDRICH LLC 401 NORTH MICHIGAN AVENUE SUITE 1900 CHICAGO, IL 60611-4212 | | | EXAMINER FISHMAN, MARINA | |
| | | | ART UNIT 2832 | PAPER NUMBER |

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/685,723 | MARTIN, DONALD R. | |
| | Examiner | Art Unit | |
| | Marina Fishman | 2832 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/15/2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3 - 6 and 8 - 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3 - 6 and 8 - 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

General status

1. This is a First Action on the Merits for RCE. Claims 1, 3 – 6 and 8 - 36 are pending in the case and are being examined.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 3 – 6 and 8 - 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There are no support for the recitation "dielectric encapsulation having a one-piece molded material" (Claim 1); the recitation "**bands** at end portions of the vacuum chamber ceramic housing are substantially free of the semi-conductive material" (Claims 1, 10 and 16) and "a voltage screen coupled to and disposed outside the vacuum chamber, **and forming a capacitive path with the semi-conductive material.**" (Claims 1, 10, 16, 23, 26 – 30, 33, 34 and 36).

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2832

5. Claims 30 – 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 recites the limitation "the voltage screen" in 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 – 6, 8, 9 and 23 - 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker [US 5,597,992] in view of Cherry [US 4,002,867] and Pham et al. [US 4,698,469].

Walker discloses a vacuum interrupter [14] comprising:

- dielectric encapsulation [16, 54] having a one-piece molded material [Column 3, lines 62,63, Figure 1] and configured substantially encapsulate the vacuum interrupter;
- the vacuum chamber comprising: a ceramic housing [24; Column 3, lines 64];
- first and second end caps [26, 28] sealing the housing,
- a floating shield [46] within the housing;

- an exposed ring integral with the housing and coupled with the floating shield [Figure 1];
- first and second voltage screens [50, 52] connected to the first and second end caps.

Walker discloses the instant claimed invention except for a semi-conductive material in contact with the exposed ring and disposed on a central portion of the vacuum chamber ceramic housing such that bands end portion of the vacuum chamber ceramic housing are substantially free of the semi-conductive material, the voltage screen overlapping a portion of the semi-conductive material. Cherry [Figures 1-8] discloses a vacuum interrupter with a floating shield [22] with an exposed ring [23], two end voltage screens [6, 15], and a semi-conductive layer on the outside of the insulating envelop [abstract, lines 8-12]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an exposed ring in Walker, connected to the outside semi-conductive coating, as suggested by Cherry, so that the floating shield voltage can be quickly discharged [Cherry column 3, lines 1-4].

Walker discloses the instant claimed invention except for the first and second voltage screens disposed outside the housing. Pham et al. disclose a circuit breaker with a sealed enclosure [Figure 5] having first and second voltage screens [135, 146] disposed outside the housing [144]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the first and second voltage screens in Walker in view of Cherry, as suggested by Pham et al., in order to reduce size of the housing [144].

Regarding the recitation "and forming capacitive path with the semi-conductive material" (Claims 1, 23, 30) the Examiner wishes to point out that the modified vacuum interrupter of Walker in view of Cherry has the voltage screens exposed to high voltage and the semi-conductive material exposed to the ground voltage with the dielectric encapsulation inbetween, thereby forming a capacitive path from inside to outside.

Regarding claims 4, 5 Walker in view of Cherry discloses the claimed invention except for the material for the voltage screen being perforated metal sheet or metallic mesh. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the voltage screen of perforated metal screen or metallic mesh, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

7. Claims 10 - 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker [US 5,597,992] in view of Cherry [US 4,002,867] Pham et al. [US 4,698,469], as applied to claims 1, 3 - 6, 8 and 9 above, and further in view of Bohme et al. [US 4,618,749].

Walker in view of Cherry and Pham et al., substantially satisfies the limitations of claims 10 and 16, however, Walker in view of Cherry and Pham et al., do not disclose the first and second voltage screens disposed within shielded encapsulation. Bohme et al. [Figure 1] discloses voltage screens [control electrodes 19, 22] disposed within shielded encapsulation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide voltage screens within shielded

Art Unit: 2832

encapsulation as suggested by Bohme et al., in order to have better waste heat conduction [Bohme et al., column 3, line 35].

Regarding claims 11, 12 and 17, Walker in view of Cherry and Pham et al., disclose the claimed invention except for the material for the voltage screen being perforated metal sheet or metallic mesh. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the voltage screen of perforated metal screen or metallic mesh, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Response to Arguments

8. Applicant's arguments with respect to claims 1 and 3 – 6, 8 – 36, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

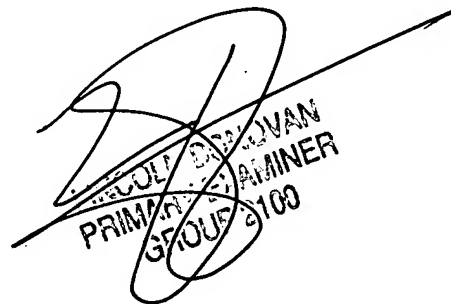
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marina Fishman whose telephone number is 571-272-1991. The examiner can normally be reached on 7-5 M-T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2832

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marina Fishman
June 29, 2005



A handwritten signature in black ink is written over a rectangular official stamp. The stamp contains the following text: "MICHAEL D. DAVAN" on the top line, "PRIMARILY EXAMINER" on the second line, and "GROUP 9100" on the third line.